Data Specialist Plus

User Manual

2010.09

1. PREFACE

The Data Specialist Plus is the most complete programming device for digital odometers, airbag modules, car radios, car immobilizers. It is a high quality embedded system, which offers a maximum of flexibility and working comfort.

Outstanding characteristics of the system are:

- Based on ARM920 TDI, high frequency up to 400 MHz.
- 800×480 TFT LCD and touch screen (7.0 inch.16:9).
- Convenient keyset.
- USB host and USB device.
- SD card interface.
- 128MB NandFlash, 128MB SDRAM.
- Self-check function integrated in system.
- Automatic calculation of mileage or km for al cars.
- Automatic reset of airbag module.
- Automatic read code of IMMO or reset of IMMO ECU.
- Automatic read code or reset of car radio.
- Intuitive operability by full menu and picture guidance.
- Color connection picture is on the screen whenever you need.
- All data can be edited, stored and loaded.
- The stored data can be transferred to a PC by USB port or SD card, and also can be transfer to wherever you want directly by internet.
- EEPROM, EPROM and FLASH programming of MCU is supported.
- Strong ability for OBD functions, including CAN, J1850, ISO9141, and Keyword 2000 protocols.
- Upgrade directly from internet.

2. MAIN MACHINE

USB-host: for connection with PC.

USB-device: for connection of other USB device such as mouse, etc.

SD card interface: for connection with SD card.

Adapter interface: for connection with adapters.

Power socket: for connection with 12V DC regulator.

3. ADAPTERS AND ACCESSORIES

Socket should plug into the adapter correctly, do not plug in the opposite side, otherwise will damage this machine or target board.

Eeprom Adapter is used to program eeprom memories, chips supported as follows:

SPI: X25043, X25045, 25C010, 25C020, 25C040, 25C080,25C160, 25C320, 25C640, 25C128, 25C256, 3132, 68343,ST14771, ST95010, ST95020, ST95040, ST95080, ST95160, ST95320,ST95640, X5043, X5045 and M35080(erase) included.

I2C: 24C01, 24C01A, 24C02, 24C04, 24C08, 24C16, 24C17, 24C32,24C64, 24C128, 24C256, 85C72, 85C82, 85C92, BAW574252 etc.

MICROWIRE: 93C06, 93C14, 93C46, 93C56, 93C57, 93C66, 93C76, 93C86,93S46, 93S56, 93S57, 93S66, 93LC46, 93LC56, 93LC57,93LC66, 93LC86, DY6N, LC46, L56R, S130, S220, etc.

OTHERS: such as PDH001, TC97101, TC89101, TC89102, TC89112, B59, D6253, D6254, S-24H30, S-24H45, S-24S30,S-2445, 16911G, 59C11, etc.

Fig3.1. EEPROM adapter

NDM457 Adapter supports the following chips:

NDM457C, DELCO51006A etc.

Fig3.2. NDM457 Adapter

Motorola Adapter is used to program Motorola MCUs

(without security), chips supported as follows:

MC68HC05B16, MC68HC05B32, MC68HC05B6, MCHC05B8, MC68HC05BE6, MC68HC05H12, MC68HC05L28, MC68HC05P3, MC68HC05X16, MC68HC05X32,MC68HC705B16, MC68HC705B32, MC68HC705E6, etc.

2).HC08 series:MC68HC08AZ32,MC68HC08AZ60, MC68HC08AS32, M68HC08AS60, MC68HC08AB32, MC68HC08AS20, etc.

3).HC11 series：MC68HC11A8, MC68HC11E20, MC68HC11E9, MC68HC11EA9, MC68HC11F1, MC68HC11K1, MC68HC11K4, MC68HC11KS2, MC68HC11KS8, MC68HC11KA4, MC68HC11KG, MC68HC11L6, MC68HC11P2, MC68HC11PA8,MC68HC11PH8, etc.

4).HC12 series：MC68HC912B32, MC68HC912BE32,MC68HC912BD32, MC68HC912D60,MC68HC912D60A,MC68HC912DG128, MC68HC912DG128A, MC68HC912DT128A, MC68HC912DT128A, MC9S12A64, MC9S12D64, MC9S12DG128, MC9S12DG256, MC9S12DP128, MC9S12DP256, MC9S12DT128, MC9S12H128, MC9S12H256(including all flash) etc.

Fig3.3. Motorola Adapter

NEC Adapter is used to program upd78k0 series MCU's,

chips supported as follows:

uPD780973,uPD780949, uPD78F0974,uPD78F0949, uPD78F0826, uPD78F0828, uPD78F0828A M1 etc.

Fig3.4. NEC Adapter

TMS Adapter is used to program TMS370 series MCU's, chips supported as follows:

TMS370C758A, TMS370C742A, TMS370C702, TMS370C058A, TMS370C042A, TMS370C002A, TMS370C756A, TMS370C056A etc

Fig3.5. TMS Adapter

HC08 Adapter is used to program Motorola HC08 series MCU's (with

security passed).

Fig3.6. HC08 Adapter

HCS12 in-circuit Adapter support mileage correction for BMW CAS/MB EZS/DASHBOARDS/MODULES/ with 912/9s12/9s12x MCU, in circuit programming (no need removing mcu), can read/edit/write eeprom of MCU, mileage calculation integrated in soft.

Fig3.16.9(s)12 in-circuit Adapter

EWS Adapter is used to program EWS of E38 / E39 / E46 / E53 by K-line.

Fig3.8. EWS Adapter

ST624X Adapter is used to program ST624X series MCU's.

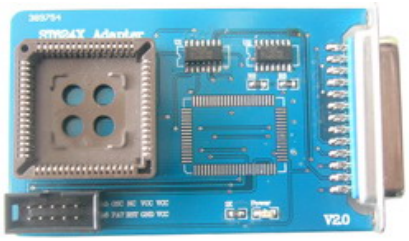


Fig3.10. ST624X Adapter

OBD adapter is used for ordinary and advanced diagnosis operations, such as programming of all BMW CAS / LCM / EWS and mileage correction of all VW series and AUDI series.

Fig3.9. OBD Adapter

HC05 Adapter is used to program MC68HC705B16/32, MC68HC705X16/32, MC68HC05B6/8/16 /32, MC68HC05X16/32series MCU's (with security passed).

Fig3.11. HC05 Adapter

HC(7)11 Adapter is used to program MC68HC(7)11 series MCU's (with security passed).

Fig3.12. HC11 Adapter

TMS374 Adapter is used to program TMS374 MCU's and support immo function of DAEWOO, FIAT, KIA, PEUGEOT, RENAULT, etc.

Fig3.13. TMS374 Adapter

CMM Adapter support odometer correction of E36, E38, FORD FOCUS, HONDA ACCORD V6, and HONDA CRV over the plug.

Fig3.14. CMM Adapter

Test Connector is used for the dsp+ self testing.and when you do the firmware update you s

TOUCH HOLDER

T-01/02:Plug the touch holder to EEPROM adapter ,then connect it to the chip on the cluster as the picture .T-01support NISSAN CEFIRO A33, INFINITY, SUV4800,TEANA,TIIDA,XTRAIL, etc.

T-03/04:Plug the touch holder to MOTOROLA adapter ,then connect it to the chip on the cluster as the picture .T-03support NISSAN PATHFINDER 2005/2007,etc. T-04 support NISSAN NAVARO 2006,PATRFINDER 2004, ARMADA,etc.

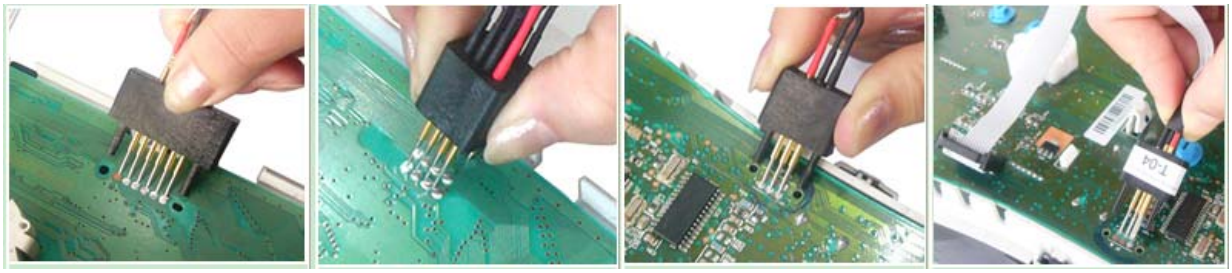


Fig3.15.Touch Holder

CLIP : Plug the clip to EEPROM adapter ,then connect it to the chip on the

cluster as the picture shows .Support 93C46,93C56,93C66,93C76,93C86, 24C04, 24C02,24C08,25010,24c16,24c32,M35080,M95040,M95080,etc.

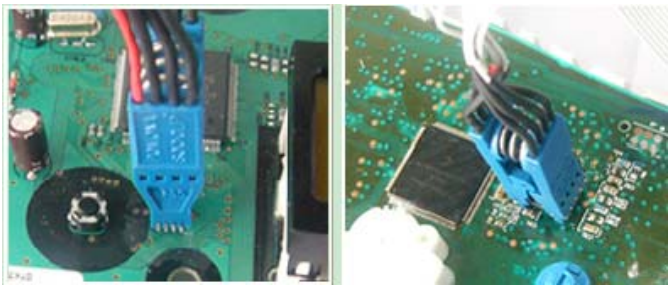


Fig3.16. Clip

4. POWER ON

There are two ways to power on the system, the first is to connect adapter to the adapter interface then plug the power regulator to the Power-Socket of the machine; the second way is to connect OBD adapter to the adapter interface over the main line, then plug the OBD adapter into the diagnosis socket of the car. Either way can power on the machine, and wait about some seconds, you will see the password window, the password is the last 6 number of your id, you will find your id at the back of the machine, for example if your id is "0D100519434E0001", the password will be "4E0001", after enter the password you will see the main window of the software.

5.ODOMETER CORRECTION

Fig 5.1. Main Window

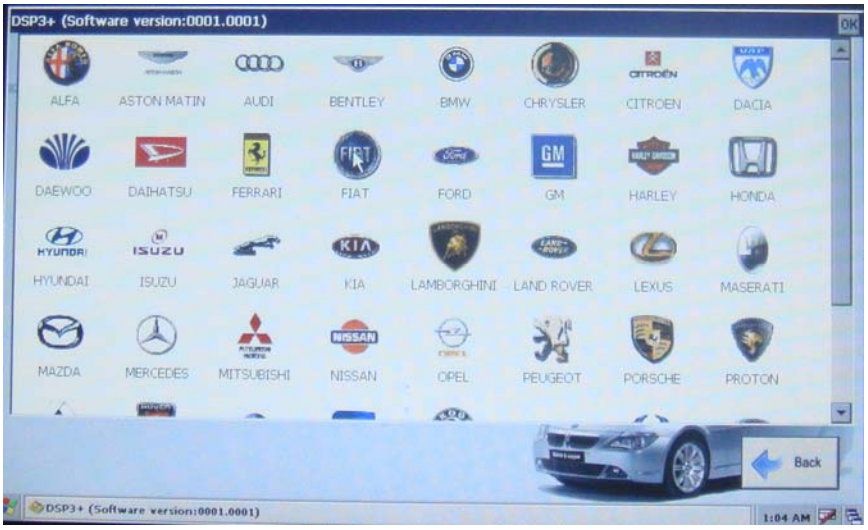


Fig 5.2. Make List

Connect the OBD or other adapter with your host at first, then power on the system, software will be opened. Click the ‘ODOMETER’ button on the main window, you will see the make list window, select make such as ‘BMW’ and double click, model list window appears as Figure, double click on a model such as ‘3 SERIES 2001-2003’, you will see the help window as Figure, click‘ Picture’, you can see a color picture which show you how to connect a proper adapter to the target odometer pcb; after connecting the proper adapter with the target odometer pcb as picture, power off, then plug the proper adapter into the main hardware by the Adapter-Socket. At next click ‘OK’ button, the odometer adjustment window appears as Figure 5.6, click ‘SAVE’ button to read and save current data, see Figure5.7, then click ‘Read KM’ to read current km, then input new km at the window see Figure 5.8 and 5.9,click ‘Write KM’ to write new km to the target dashboard.

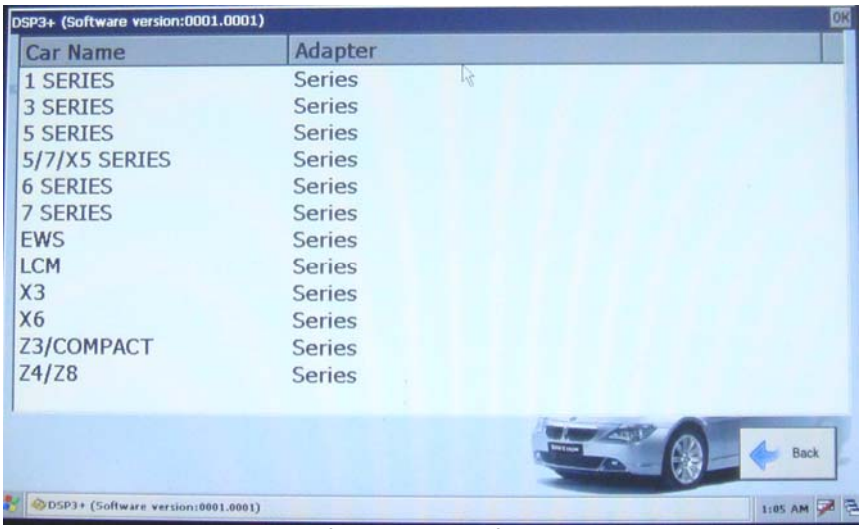


Fig 5.3. BMW List

Fig 5.4. 3 SERIES 2001-2003

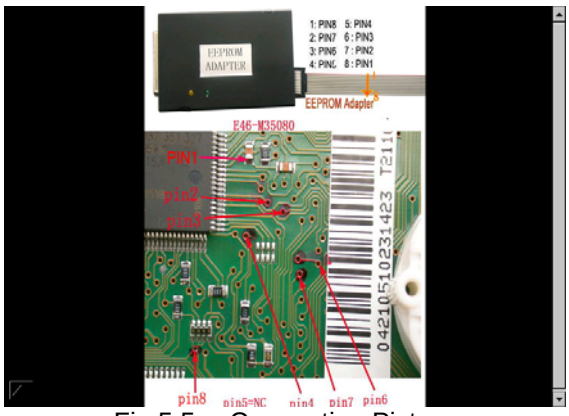


Fig 5.5. Connection Picture

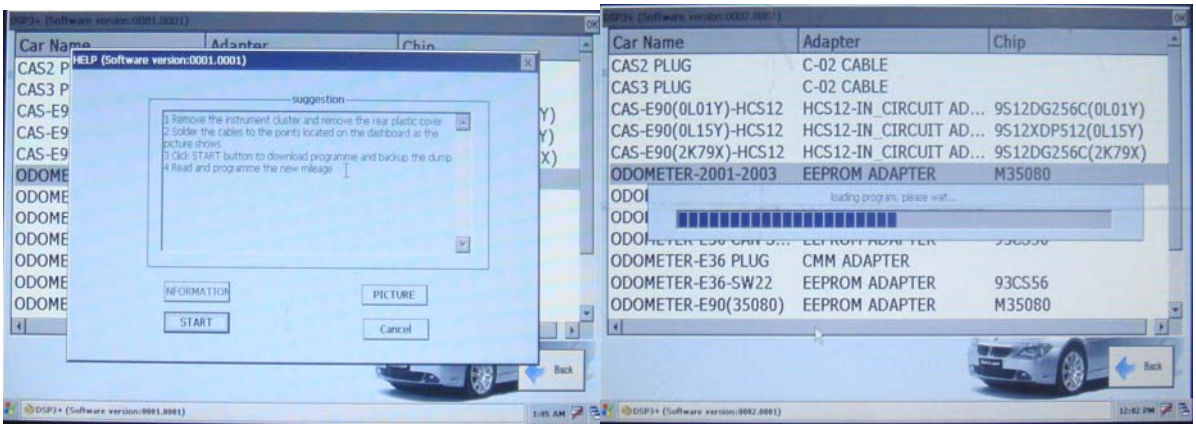


Fig 5.6. Load program and Load OK

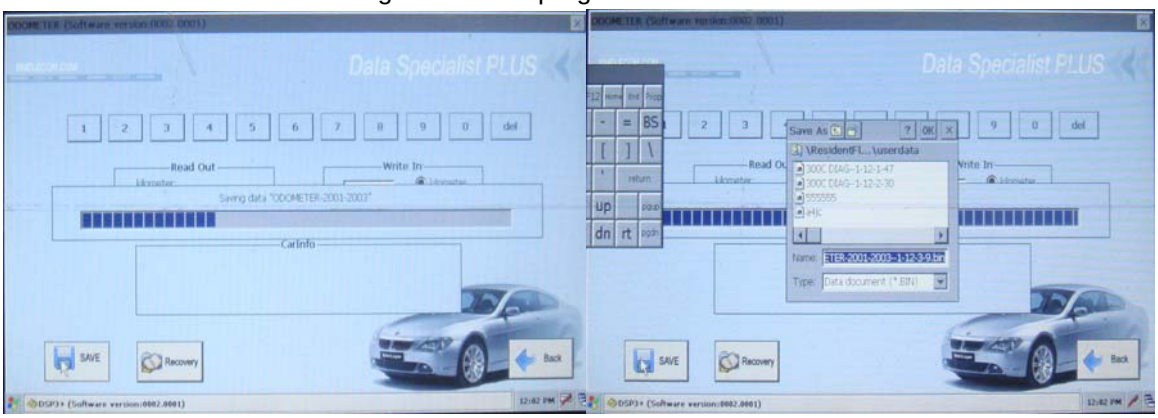


Fig 5.7. Save Data and Save OK

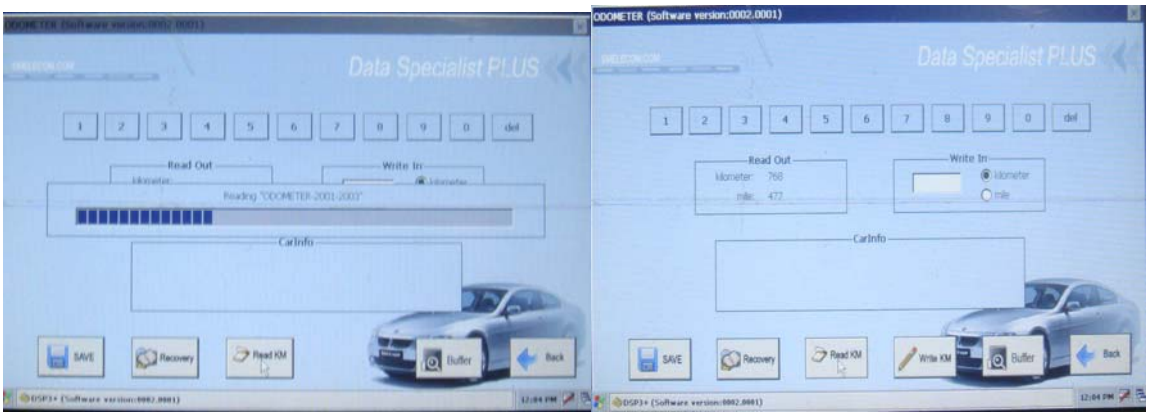


Fig 5.8. Read KM and Read OK

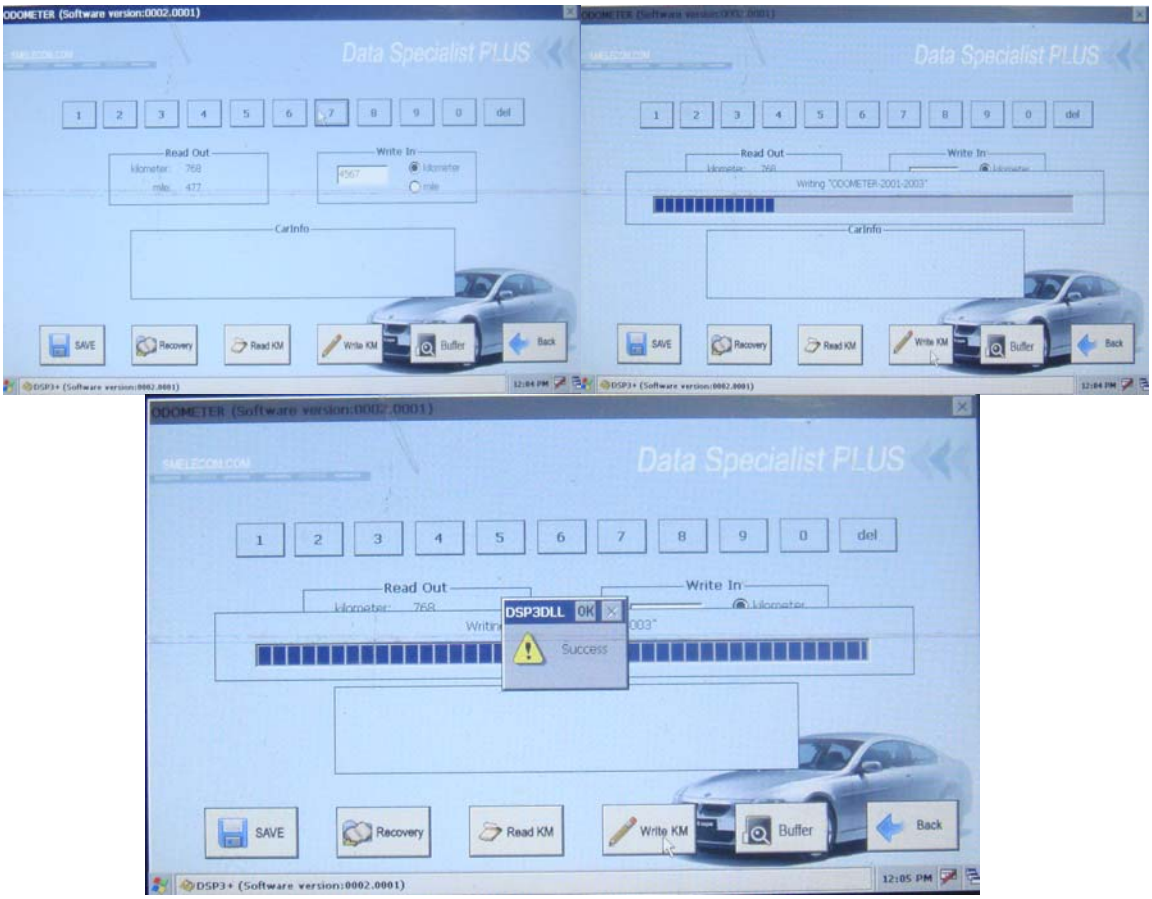
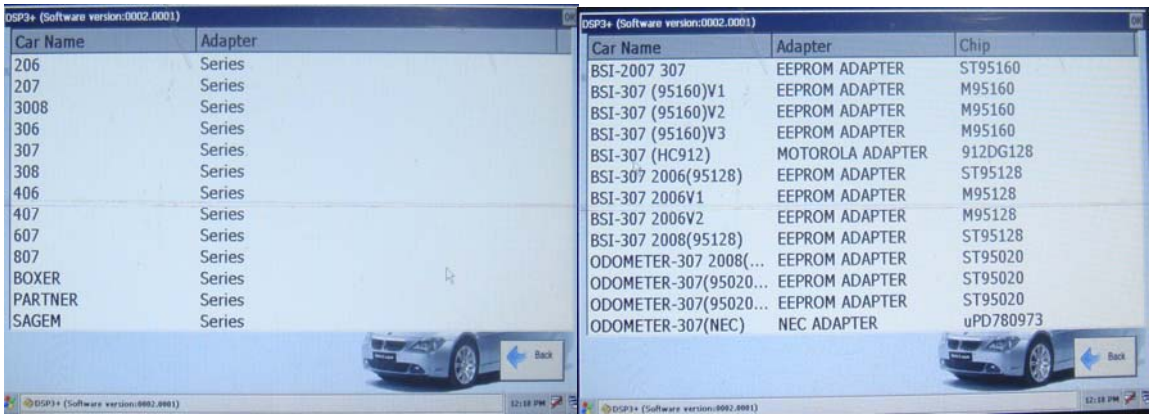


Fig 5.9. Write KM and Write OK

Notes: BSI correction. Before correction of some odometers, you have to reset BSI module first, such as ‘peugeot 307’, you should select ‘BSI’ and reset the km to zero, then adjust the km of odometer. See Figure5.10.



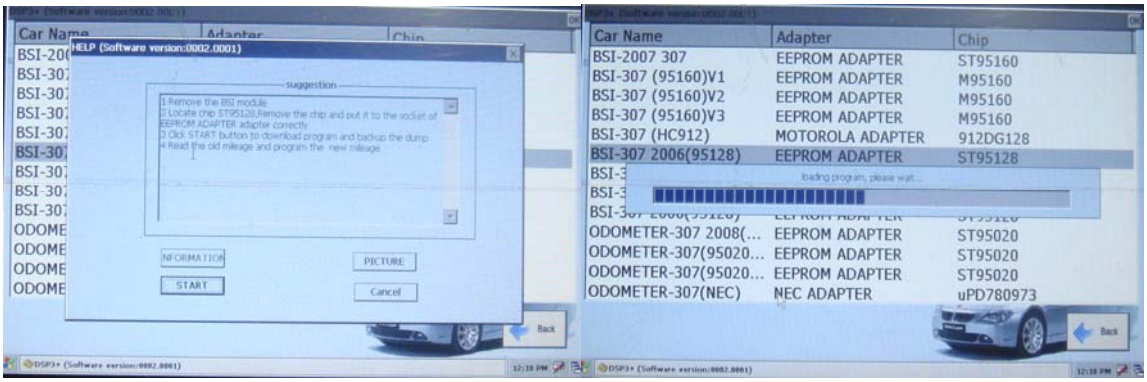
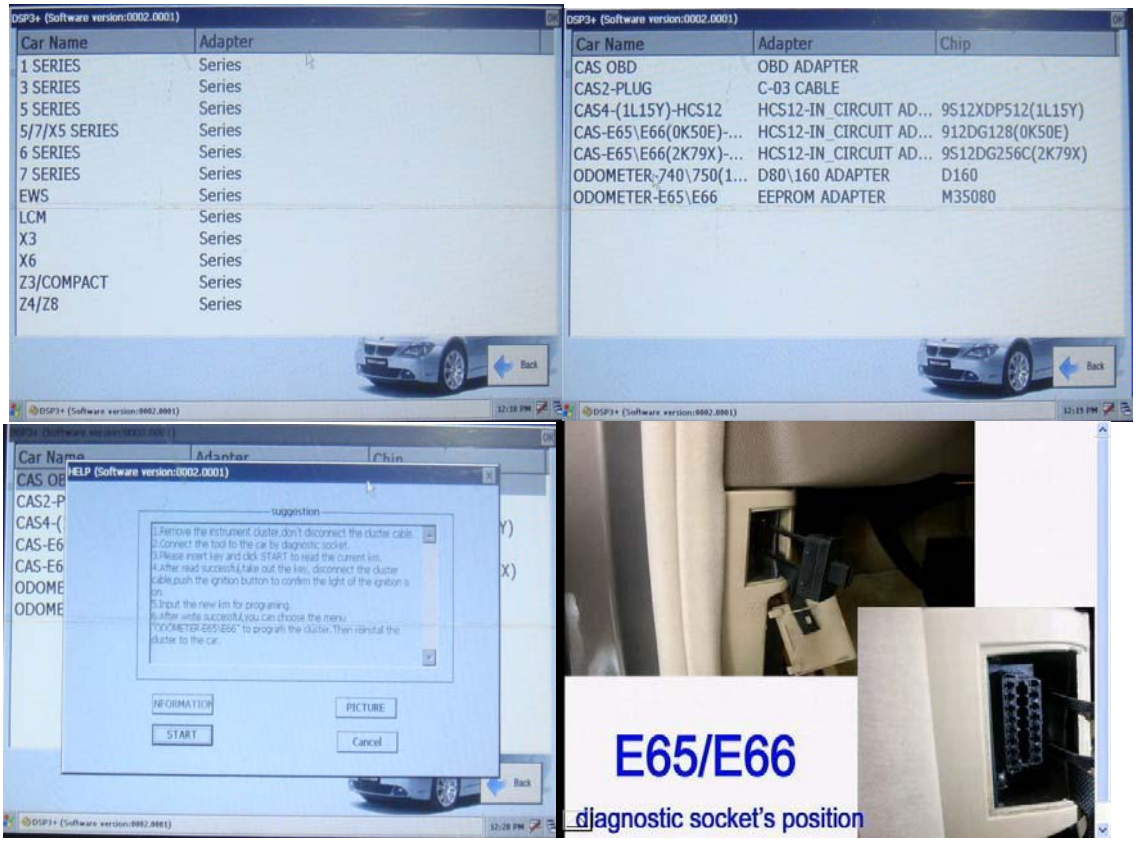


Fig 5.10. Peugeot 307_ Reset BSI

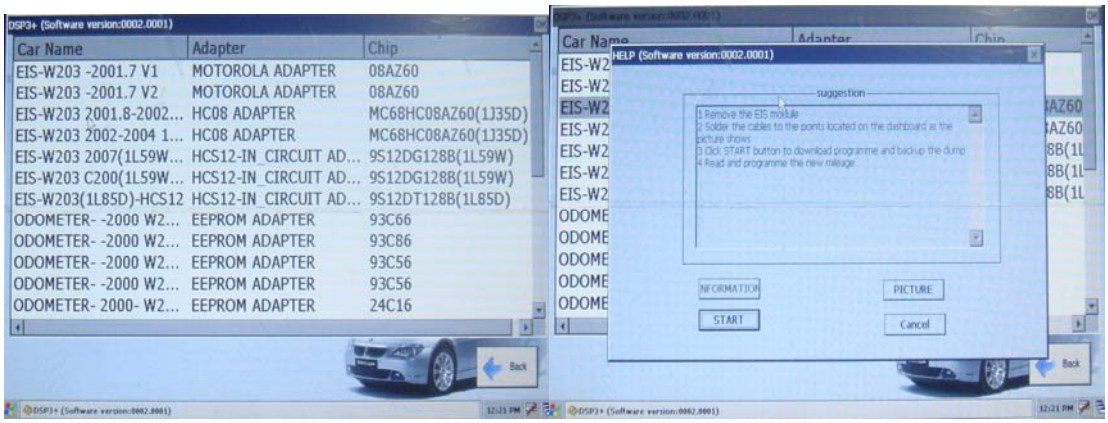
LCM/ EWS/ CAS unit correction. Before correction of some BMW odometers you have to reset the km in LCM/ EWS/ CAS module first, this operation is similar to odometer adjustment. See Figure 5.11 .



2005 E65
CAS
by dash connector
10 pin
Remove the instrument cluster. Connect dash connector with the speedometer plug follow the picture

Fig 5.11. BMW CAS Reset

EZS correction. Before correction of some BENZ odometers you have to reset the km in EZS module first, this operation is similar to odometer adjustment. See Figure5.12.



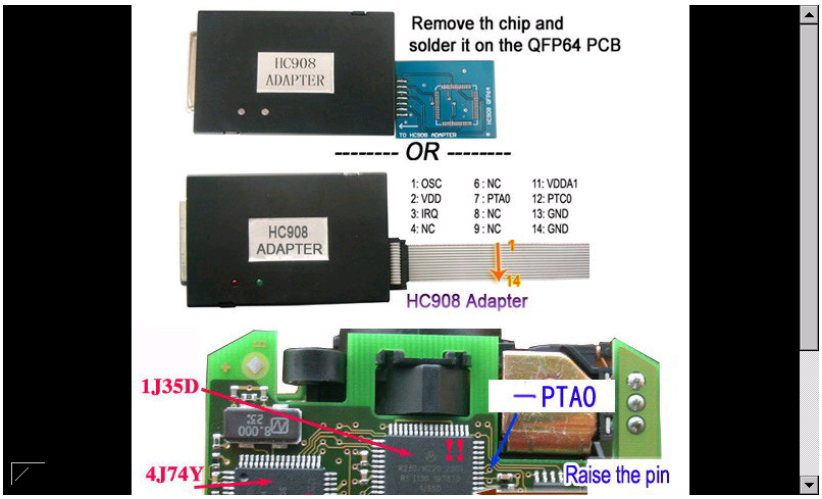


Fig 5.12. BENZ EZS Reset

6.AIRBAG RESET

Click the 'AIRBAG' button on the main window, you will see the airbag reset window, select make and model, then repair. See Figure6.1.

Fig 6.1. Airbag Reset

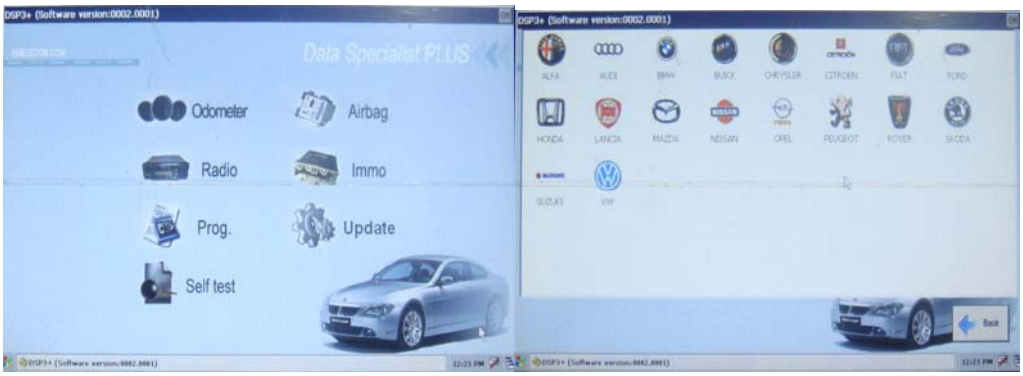
7. IMMO CODE READER

Click the 'IMMO' button on the main window, you will see the immo code reading window, select make and model, then read immo code. See Figure.

Notes:

Some IMMO code can be read by odometer adjustment OBD operations. See Figure.

Some IMMO can not be read, what you can only do is to disable the immo function by writing eeprom of engine ECU. See Figure.



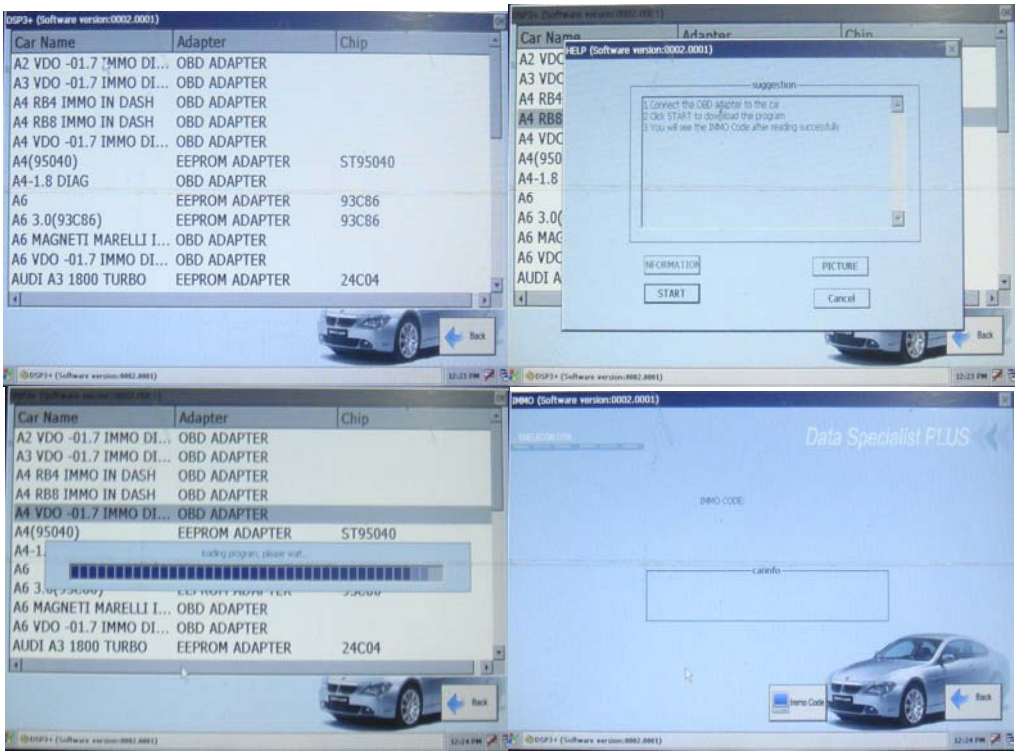
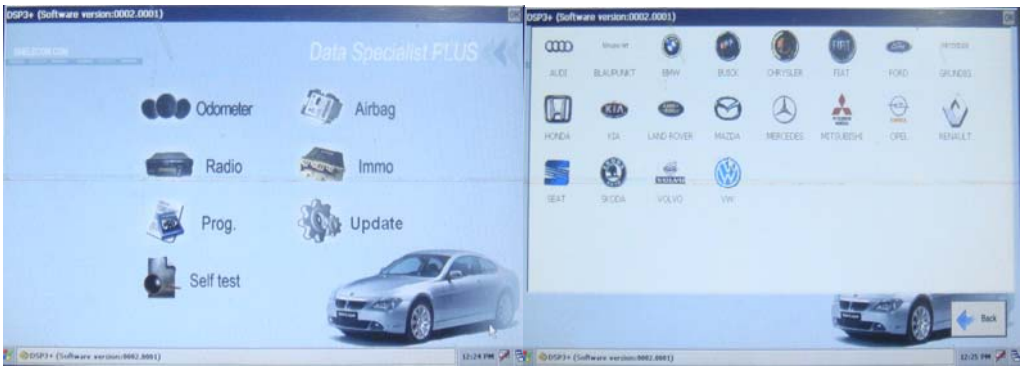


Fig 7.1. IMMO CODE READER

8. RADIO CODE READER

Click the 'RADIO' button on the main window, you can see the radio code reader window,select make and model, then read radio code. See Figure.



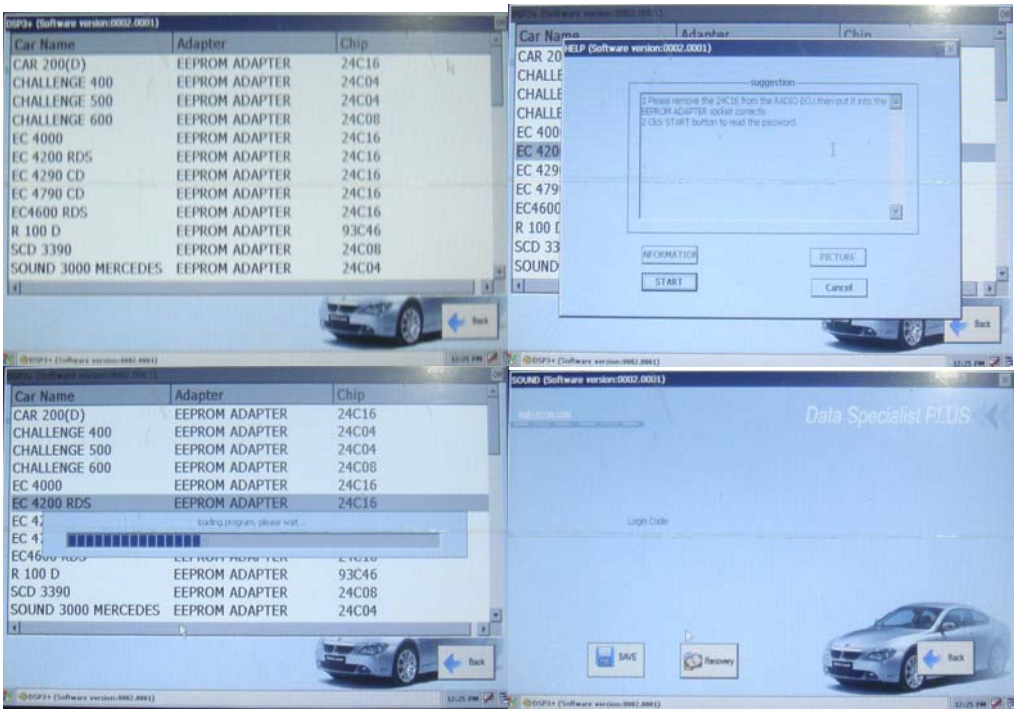


Fig 8.1. RADIO CODE READER I

Fig 8.2. RADIO CODE READER II

9. PROGRAMMER

The programmer function of Dataspecialist PLUS is powerful; you can use it to do what you want. Click the ‘PROG.’ button on the main window, you will enter the programmer window. Establish a new file or open an old file, select adapter and chip device, then you can fulfill all the operations of ‘edit’, ‘erase’, ‘read’, ‘write’, ‘copy’, and ‘save’ etc. See Figure9.1 and 9.2.

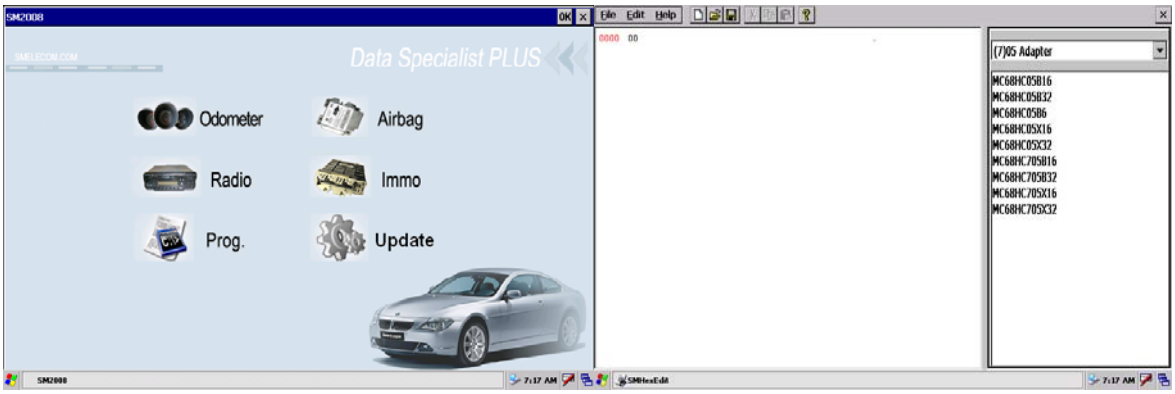


Fig.9.1 Main window and Program main window

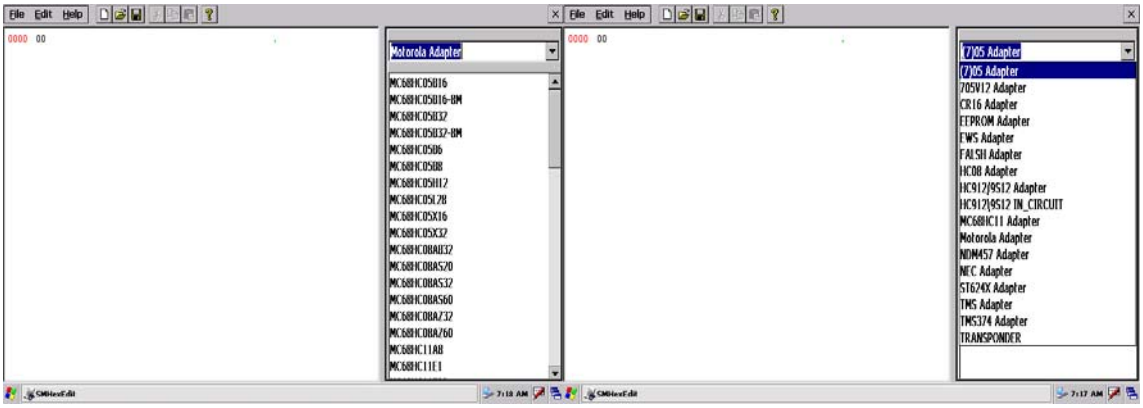


Fig 9.2. Adapter Select and Chip Select

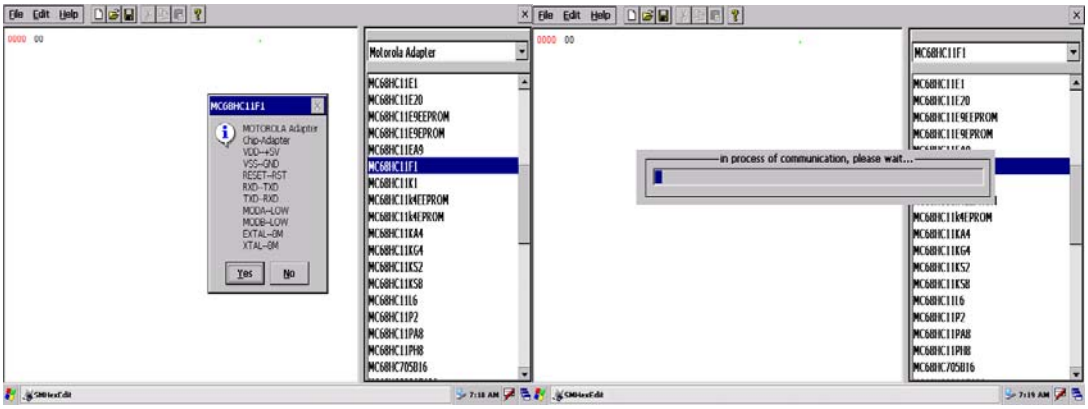


Fig 9.3. Check connection and Load Program

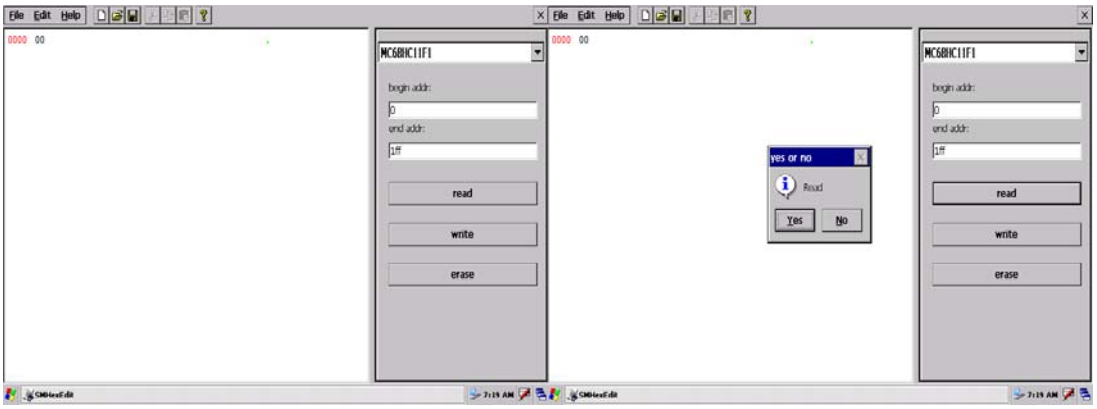


Fig 9.4. Operation window and Operate button

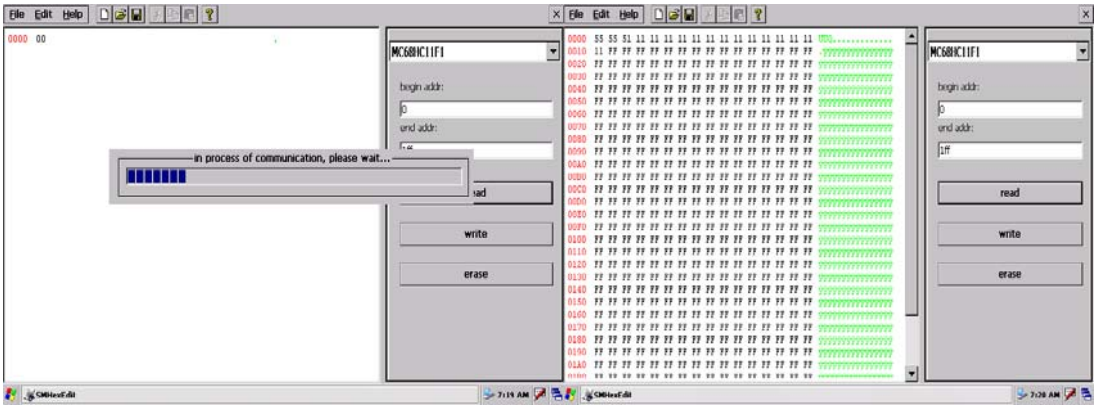


Fig 9.5. READ process and Data show window

10. CONNECTIONG TO INTERNET

Connect the machine to PC over the USB cable, install USB driver at first (see the video help file: CD: \ dsp3\ drivesoft.rmvb) then setup video help file: CD: \ dsp3\ ActiveSync.rmvb).

After that you can see the Microsoft Active Sync window as Figure show . Select ‘NO’ then click ‘next step’. Till now, connect your pc to internet, you can go to internet by the machine.

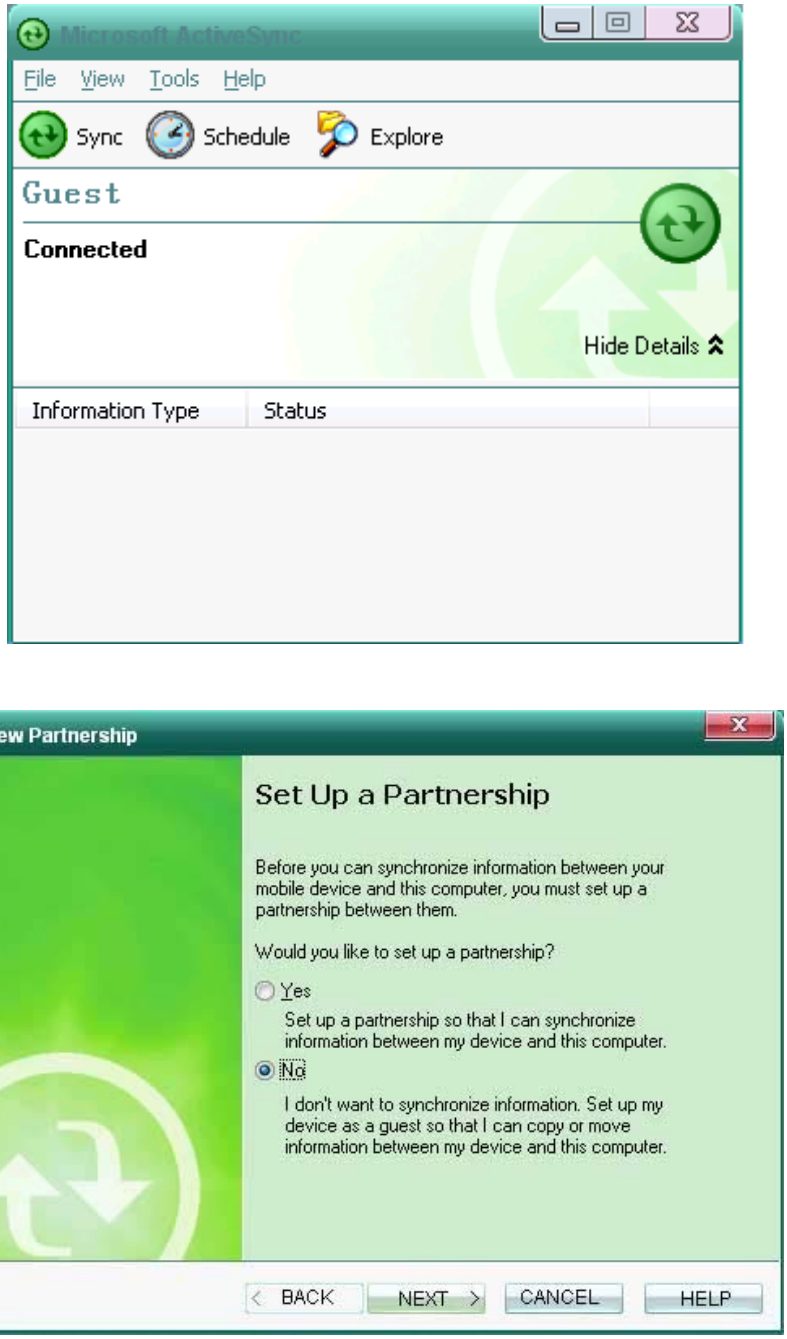

Microsoft ActiveSync
File View Tools Help
Sync
Schedule
Explore
Guest
Connected
Hide Details
Information Type
Status
New Partnership
Set Up a Partnership
Before you can synchronize information between your mobile device and this computer, you must set up a partnership between them.
Would you like to set up a partnership?
Yes
Set up a partnership so that I can synchronize information between my device and this computer.
No
I don't want to synchronize information. Set up my device as a guest so that I can copy or move information between my device and this computer.
BACK
NEXT
CANCEL
HELP

Fig 10.1. Microsoft Active Sync

11. UPDATE

Fig 11.1. " Update "

Software update interface

Condition of software update is connecting internet .Connect the test connector to the host at first, then power on the system,input the password(original the last 6 digits of your ID) , the software will be opened. click Update → software update, you can see Recognizing ID authorization , Download file… details see Figures followed.Video help file: CD:\ dsp3\ update.rmvb.

Fig 11.2. Software update interface

Firmware update interface

Firmware update is similar to the software update ,just click the firmware update with connecting the test conector.

Fig 11.3. Firmware update interface

Active Function interface

Also Activate function,it is samilar too , this option is use for the customers adding new functions.

And every month customers need do this job for once, when it is time need do it ,software will show you the message “Your programmer will need to be re-activated within X days time. Please use the activate function procedure before the time expires. Press anykey to continue”

Fig 11.4. Active Function interface